



An assessment of climate change impacts and adaptation for the Torres Strait Islands, Australia

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Abstract:

Adaptive practices are taking place in a range of sectors and regions in Australia in response to existing climate impacts, and in anticipation of future unavoidable impacts. For a rich economy such as Australia's, the majority of human systems have considerable adaptive capacity. However, the impacts on human systems at the intra-nation level are not homogenous due to their differing levels of exposure, sensitivity and capacity to adapt to climate change. Despite past resilience to changing climates, many Indigenous communities located in remote areas are currently identified as highly vulnerable to climate impacts due to their high level of exposure and sensitivity, but low capacity to adapt. In particular, communities located on low-lying islands have particular vulnerability to sea level rise and increasingly intense storm surges caused by more extreme weather. Several Torres Strait Island community leaders have been increasingly concerned about these issues, and the ongoing risks to these communities' health and well-being posed by direct and indirect climate impacts. A government agency is beginning to develop short-term and long-term adaptation plans for the region. This work, however, is being developed without adequate scientific assessment of likely 'climate changed futures.' This is because the role that anthropogenic climate change has played, or will play, on extreme weather events for this region is not currently clear. This paper draws together regional climate data to enable a more accurate assessment of the islands' exposure to climate impacts. Understanding the level of exposure and uncertainty around specific impacts is vital to gauge the nature of these islands' vulnerability, in so doing, to inform decisions about how best to develop anticipatory adaptation strategies over various time horizons, and to address islanders' concerns about the likely resilience and viability of their communities in the longer term.

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Resource Description

Climate Scenario :

specification of climate scenario (set of assumptions about future states related to climate)

Special Report on Emissions Scenarios (SRES)

Special Report on Emissions Scenarios (SRES) Scenario: SRES A1, SRES A2

Exposure :

weather or climate related pathway by which climate change affects health

Climate Change and Human Health Literature Portal

Ecosystem Changes, Extreme Weather Event, Food/Water Quality, Food/Water Security, Precipitation, Sea Level Rise, Temperature

Extreme Weather Event: Flooding, Hurricanes/Cyclones, Landslides

Food/Water Quality: Other Water Quality Issue

Water Quality (other): Sea Surface Temperature

Temperature: Extreme Cold, Extreme Heat, Fluctuations

Geographic Feature: 

resource focuses on specific type of geography

Ocean/Coastal, Rural

Geographic Location: 

resource focuses on specific location

Non-United States

Non-United States: Australasia

Health Impact: 

specification of health effect or disease related to climate change exposure

Cardiovascular Effect, Infectious Disease, Injury, Mental Health/Stress, Morbidity/Mortality, Other Health Impact

Cardiovascular Effect: Heart Attack

Infectious Disease: General Infectious Disease, Vectorborne Disease

Vectorborne Disease: General Vectorborne, Mosquito-borne Disease

Mosquito-borne Disease: Dengue

Mental Health Effect/Stress: Mood Disorder

Other Health Impact: Heat rashes; Heat exhaustion; Heat stroke

Mitigation/Adaptation: 

mitigation or adaptation strategy is a focus of resource

Adaptation

Model/Methodology: 

type of model used or methodology development is a focus of resource

Exposure Change Prediction, Methodology

Population of Concern: A focus of content

Population of Concern: 

populations at particular risk or vulnerability to climate change impacts

Climate Change and Human Health Literature Portal

Elderly, Low Socioeconomic Status, Racial/Ethnic Subgroup

Other Racial/Ethnic Subgroup: Indigenous populations

Other Vulnerable Population: Low physical fitness; Pre-existing health conditions

Resource Type:

format or standard characteristic of resource

Policy/Opinion, Review

Resilience:

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

A focus of content

Timescale:

time period studied

Long-Term (>50 years)

Vulnerability/Impact Assessment:

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content